MARINE RECORD

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THE U. S. MERCHANT MARINE.

We have now employed in our foreign trade 294,064 tons of steamers and 443,645 tons of sailing vessels, of a value of $26,276,964 and $14,480,593 respectively, or a total of $40,757,557. In 1898 these were the vessels that carried 9.3 per cent. of our imports and exports. In 1892 Capt. William W. Bates, who had shortly before retired from the office of United States Commissioner of Navigation, published an exhaustive work on "American Marine," which is devoted almost altogether to the rise and decline of our shipping in the foreign trade. He calculates the tonnage required for the carriage of our foreign commerce in 1891, and arrives at the following:

"An estimate of our shipping necessities for the present year may be fixed at 1,200,000 tons of sail, and 3,000,000 of steam. To increase the shipping we now have in the foreign trade to this amount would require an outlay of $300,000,000. Under due protection, with this preparation made, we might command a business of $2,000,000,000, a vanishing fraction of which is now barely possible of attainment."

In that year 30 per cent. of the entries at our ports were sail vessels, while to-day only 20 per cent. is of sail. Moreover, the tonnage our foreign commerce employs has increased by one-third since 1891. It is conceded that a steam vessel is able to carry, in a year, three times as much as a sail vessel of identical size. If, therefore, we add but 100,000 tons to the sail vessel estimate to meet the increased need since Capt. Bates wrote, we shall probably concede at least all of that type, and more, that is likely to be built; and if we reduce the remaining 300,000 tons of sail to make up the one-third of increase since 1891 to 100,000 tons of steam—the equivalent of 300,000 tons of sail—and add one-third to the steam tonnage estimated by Capt. Bates, our shipping necessities to-day would be as follows:

	Tons.
Sail vessels	1,300,000
Steam vessels	4,100,000
Total	5,400,000

Deducting from the above the tonnage under our flag in the foreign trade we would require the following additional tonnage, if American ships wholly superseded all foreign ships in our foreign trade:

Sail vessels	856,355
Steam vessels	3,805,936
Total	4,662,291

As a matter of fact, existing American shipyards could not construct that tonnage within 20 years, at which time our shipping necessities would probably have again doubled. But there is nothing, except the demand for ships, to prevent enormous increases in our shipbuilding facilities.

The census report of the average value of the steam and sail vessels engaged in carrying passengers and freight, above referred to as the basis for our computations and comparisons, places the value of our steam vessels on the Atlantic and Gulf at a fraction less than $76 per ton, and sail vessels in that trade at a fraction under $31 a ton. The values on the Pacific coast are much higher, but these we exclude from our comparisons in order to be conservative. We also have assumed, for comparison purposes, and to be fair, that there has been a reduction of about 12 per cent. in the cost of vessels, wherefore we place the probable cost of new steam tonnage at $67 and of sail at $27 per ton. To supply the additional tonnage that would be necessary to carry all of our foreign commerce under our own flag would involve the following expenditures in American shipyards:

856,355 tons of sail vessels at $27 per ton	$22,121,585
3,805,936 tons of steam vessels at $67 per ton	254,997,712
4,662,291 tons of sail and steam vessels	$277,119,307

American labor would, from the mine and forest to the finished ship, and through all the processes to which the raw material would be subjected, receive about 95 per cent. of that vast sum, if the ships our foreign commerce employs were built in the United States. But that sum we are now paying to foreign shipowners who, in turn, expend it in the employment of aliens in foreign shipyards and on board foreign ships.

SUBMARINE BOATS.

P. Walter D'Alton, who engineered the last of the Nordenfelt submarine boat, and served in her in 1886 and 1887 until she was lost, condemns without qualification all submarine boats in a letter to the London Engineer of Feb. 3. He tells us that the designing and building of submarine boats seems to be a sort of madness with one country after another, the only cure for which appears to be the actual running of the boats so designed and constructed; and then for a season the world is clear of talk of these impossibilities until the next country takes the fit, when the same enthusiasm is displayed, the same nonsense talked, the same mistakes made, and finally the same relegation to the scrap heap of the object of all the hopes and enthusiasm. The submarine boat, with its crankiness, it absence of bouyancy, its danger—to its friends—is impossible as an engine of war, and, as Lord Charles Beresford said: "is quite useless as a fighting machine, owing to the necessary absence of morale amongst a crew which would be in a blue funk of it all the time.' But the Nordenfelt, as a partly-submerged vessel, showing a wonderfully small target, and steaming as she could, in that condition at the rate of 19 knots, was a very ugly enemy to face."

The success of the Nordenfelt, according to Mr. D'Alton, demonstrated "the absolute impossibility of any and every submarine boat." She steamed 14 miles under water in a series of long dives; she remained totally submerged in deep water, with nine men on board, for six hours, and she went under thirty times in each of the two years. Ten knots an hour in deep water was found to be the safe limit of prudence.

GUESSING THE AGE OF NIAGARA.

Some interesting speculations concerning the age of the Niagara gorge are reported by Nature. This was the subject of a paper by Prof. G. Frederick Wright, read at the Boston meeting of the American association. The late Dr. James Hall early noted the significant fact that "the outlet of the chasm below Niagara Falls is scarcely wider than elsewhere along its course." This is important evidence of the late date of its origin and it has been used in support of the short estimates which have been made concerning the length of time separating us from the glacial period. A close examination made by Prof. Wright last summer greatly strengthens the force of the argument, since he found that the disintegrating forces tending to enlarge the outlines and give it a V-shape are more rapid than has been supposed. As the result of his investigation he concludes that a conservative estimate of the rate of disintegration for the 70 feet of Niagara shales supporting the Niagara limestone would be one inch a year, with a probable rate of two inches a year. But at the lowest estimate no more than 12,000 years would be required for the enlargement of the upper part of the mouth of the gorge, 1,000 feet on each side, which is very largely in excess of the actual amount of enlargement. Some of the recent estimates, therefore, which would make the gorge from 30,000 to 40,000 years old, are regarded as extravagant. According to Prof. Wright the age of the gorge cannot be much more than 10,000 years, and is probably considerably less.

THE HANNA-PAYNE BILL.

Following are resolutions of the Milwaukee Chamber of Commerce in reference to the Hanna-Payne Bill to revive the merchant marine of the United States.

"Whereas, About 90 per cent. of the imports and exports of the United States are carried in foreign ships which annually receive from the people of the United States a sum estimated at $200,000,000, which is taken out of the country in gold or its equivalent and contributes to the employment of aliens abroad, while at the same time depriving our own people of the employment that sum would constantly give if it were retained in the United States; and

"Whereas, While it is an indisputable fact American natural resources, capacity and enterprise cannot be excelled by those of the people of any other country, in the face of this fact our foreign commerce conducted by our own shipping has declined from 80 per cent. in 1846 and 66 per cent. in 1860 to 11 per cent. in 1897; and,

"Whereas, The President of the United States and the Secretary of the Treasury have strongly recommended legislation to restore to American ships a fair share of our foreign carrying, to the end that the money so expended may be retained in the United States, giving employment upon our farms, our mines, our forests, in our factories, our shipyards and on board the ships, to our own people; therefore be it

Resolved, that the Senators and Representatives of Wisconsin in Congress are respectfully requested to actively support such carefully considered legislation as may be deemed necessary to give effect to the recommendations of the President and Secretary of the Treasury in this respect, and for the more adequate defense of the nation under the new conditions that confront it."

STEEL PRODUCTION.

The bulletin of the American Iron and Steel Association says that 6,609,017 gross tons of Bessemer steel ingots were produced in the United States during 1898, an increase of more than 20 per cent. over 1897. Pennsylvania's share was 3,402,254; Ohio, 1,489,115; Illinois, 1,105,040, and other states, 612,608.

The production of all kinds of Bessemer steel rails by the producers of Bessemer steel ingots in 1898 was 1,955,427 gross tons, against a similar production in 1897 of 1,614,399 tons and 1,102,892 tons in 1896. The maximum production of Bessemer steel rails by the producers of Bessemer steel ingots was reached in 1887, when 2,044,819 tons were made. Of these Pennsylvania produced 1,052,771 gross tons, and other states, 902,656.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, report the eastern freight situation as follows:

Our freight market for steamships, and the conditions underlying it, have not changed since our last report; we continue to live in hopes of a better enquiry for grain and cotton, but as yet cannot cite any indications as pointing that way. A fair demand for steam for case oil cargoes to the Far East continues on terms of last charters reported, but, on the other hand, time charterers of large tonnage are withdrawing from the market, and owners' offer of 6s. 6d. does not lead to business. Luckily the amount of disengaged tonnage offering on our neighboring markets is not heavy. The same state of affairs is prevailing in the Gulf ports, but, unfortunately, to a still more acute degree than in the north.

Our market for sailers offers very few points of interest, the situation remaining entirely unchanged. The demand for case oil tonnage to the east continues, but rates show no further improvement, in consequence of the general decline in steam freights, which induced steamers to offer for this trade. In other lines there is nothing new, whatsoever.

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

The Youghiogheny & Lehigh Coal Co., has purchased the dock and steamboat fueling business of the O. S. Richardson Coal Co. The latter company retires entirely from lake business. The Youghiogheny & Lehigh Co. is a part of the extensive soft coal producing, selling and shipping interests managed by G. E. Tener and John A. Donaldson, of Cleveland, and which include the Pittsburg & Chicago Gas Coal Co. and Fairport & Northwestern Dock Co.

The Sheriffs Manufacturing Co., of Milwaukee, has orders for Sheriffs wheels as follows: One of 11 feet diameter for steamer F. & P. M. No. 5; one of 7 feet 8 inches diameter for the Dunham tug J. C. Evans, under charter to the Flint & Pere Marquette Railway Co. at Ludington; one of 8 feet diameter for the tug John Gregory at Cleveland; one of 6 feet 10 inches diameter for the tug Fred A. Lee at Sault Ste. Marie. Wheels of 4 feet 8 inches and 4 feet 9 inches diameter respectively, have also been shipped to New Orleans, La., and Stillwater, Minn., within the past few days.

A large amount of lumber is to be brought to Chicago this season from the head of Lake Superior, and suitable carriers will find employment at improved rates. Several season charters have already been made at $2 per 1,000 feet, and one where the lumber is to be delivered upon a dock, just inside of the harbor, for a trifle less than that figure. Rates will also be higher on lumber from Lake Michigan ports. One dealer who has 10,000,000 feet of hardwood lumber to be delivered from Traverse City and other points in Grand Traverse Bay, is looking for tonnage at a $2 rate. The improvement in lumber freight rates must necessarily extend so that the smaller class of vessels will also be benefited.

The Chicago pneumatic Tool Co., Chicago, has a report from John MacDonald & Son, of Glasgow, on an exhibition of the company's pneumatic tools held in Glasgow in Muir & Findlay's Parkhead Boiler Works. The tools seen at work by leading shipbuilders of the Clyde, railroad and locomotive builders and by a number of boiler makers and engineers were the Boyer hammer for chipping and calking, the Boyer riveting hammer, riveter with pipe frame, deck riveter and pneumatic holder-on, and casting cleanser. There were also shown the Whitelaw reversible drills and a chain hoist operated by air motor. The performance of all tools was highly satisfactory.

Vesselmen are beginning to figure on the probable time that navigation will open in the spring, and the opinion seems to be that it will not be as early as usual. Capt. J. T. Rose, of Duluth, wrote to the Harvey Marine Bureau, which supplies marine news from the Sault, asking about the ice there and the prospects for the opening of navigation. A reply was received in which it was stated that there is more ice in the river and at the foot of Lake Superior than there has been in ten years or more, and the opinion is that it will be impossible to get boats through before May 1. This date is about the proper time for vessels to begin sailing, but it would be safe to bet that 15 days earlier would be nearer the mark.

A correction of a misstatement is made regarding that money-producing Alaskan steamer Willie Irving, which though a stern wheeler only 80 feet long and 20 feet beam, made $23,000.00 on one round trip. She made ten trips during four months of last season, and is the boat that shot the Five Finger rapids two miles in length in 2½ minutes. Joseph Supple, of Portland, built the hull, and the Marine Iron Works, Chicago, designed and built the entire combination of driving machinery and accessories, including the Roberts' water tube boiler, of which they are authorized builders. If more of the Alaska ventures had equally good stern paddle wheel steamboats, managed by men experienced in handling that usefnl kind of craft, they need not worry, even though not successful in mining for the yellow metal.

Lieut. Benjamin W. Wells, U. S. N., assumed charge of the naval recruiting station and the hydrographic office at Chicago on the 16th ult., relieving Lieut. Comdr. Holman Vail. Lieut. Wells will make his home at the North Shore Hotel, Chicago. Mr. William J. Wilson, who has been in charge of the branch hydrographic office at Chicago, and who was recently mustered out of the volunteer navy, has been reappointed nautical expert and will continue as assistant at the branch hydrographic office. Mr. Wilson has been indefatigable in his work at Chicago, and owing to his efforts the Chicago office is one of the best known in the United States. Mr. Wilson is devoting his spare time to teaching the Chicago ship captains and yachtsmen the navigator's art, being principal of the Chicago Nautical School.—Army and Navy Register.

Capt. Williamson, in an interview concerning his dismissal from the command of the steamer Naomi, said: "I was given no opportunity for defending my course and I asked for none. I sighted the Moran in the lake in the middle of night. Her crew were standing on the ice and when I attempted to rescue them made no effort to save their own vessel. They had tow lines on board, but they made no attempt to use them. I saved all of the crew and took some of the effects of the Moran. When it was evident that if both vessels stayed out longer both would be lost I abandoned the Moran. When I reached port my first salute came from Traffic Manager Field, who congratulated me upon arriving safely in port, and in also saving the crew of the Moran. The absolute turn in affairs which came a few days after, when I was asked to sever my connection with the company, was surprising.

CLEVELAND.

Special Correspondence to The Marine Record.

Shipbuilding skill or labor is now at a premium and workmen are being engaged daily at the local shipyards.

The situation in coal freights has been more than dull this week and I have not learned about any charters being placed.

Capt. John Mitchell left for New York on Tuesday to look after the schooner J. C. Fitzpatrick, which was chartered by the Atlantic Transportation Co.

The best offer from Duluth seems to be 2¼ cents for arrival on wheat to Buffalo. This figures about 85 cents on ore, while only 65 cents is offered on ore charters for the season.

The work of lengthening the steamer Globe has been started at the yard of the Globe Iron Works Co. The job will be completed some time in May, and when she comes out she will be a 5,000-ton carrier.

With the fine, mild weather experienced here this week there is a feeling that navigation may open quite early, and masters as well as engineers are figuring on getting soon to work again, either here or through being sent to other ports.

The engineers of the Zenith City steamers, all but one of which are at Buffalo, will begin fitting them out about March 1. The Queen City and Superior City are receiving considerable repair work, the latter having been on fire last fall. The Superior City and Empire City will be drydocked.

Shortly after the big cargo steamer Pennsylvania was launched at the yards of the Cleveland Ship Building Co. at Lorain Saturday afternoon, the passenger boat which bears the same name was launched at Detroit. A duplication of the names is a singular, or rather a mutual duplicate coincidence.

At the lodge rooms of the Shipmasters' Association a very pleasant card party was given on Tuesday night by the wives of the members. A large number was in attendance, and the occasion proved a most enjoyable one. The ladies acted as entertainers, and served a sumptuous lunch. An excellent program of music was a feature of the reunion.

Consolidations and combinations are all the talk now. In addition to the getting together of shipyards which first started about a year ago between Chicago, Duluth and this city it is now known that the lake Superior Iron Co. is likely to be taken into a combination so that their fine vessel property may possibly change hands before the opening of navigation.

The licensing of masters and pilots of sailing craft of 700 tons and upwards is keeping a good many of the pilots guessing this week. It is a question among them whether the large tow barges are to be considered as sailing vessels or not. The officers of the whaleback fleet of barges are easy enough in their minds so also are those in charge of the smaller vessels or actual schooners. It is more than likely that all consorts will be considered as tow barges and that licensed men will not be required for them.

Work is being rushed on the slip dock the L. E. & D. R. railway is building at Rondeau to accommodate its car ferries. The car ferry Shenango No. 1, which is to be put on the route between Rondeau and Conneaut, is one of the largest craft of her kind and will carry a train of loaded cars at each trip. By the construction of car ferry docks at Rondeau, the Walker road will have the distinction of possessing facilities at all its water terminals for transferring cars across to their railway connections on the American side. The passenger steamer Flora has been rebuilt and will ply regularly between Rondeau and this port during the entire season of navigation.

In a paper read at a meeting of the Civil Engineers' Club on Tuesday night, it was stated that there were twenty large steel shipbuilding yards in the United States, and the average output or construction only reached 3,000 tons each last year. The British alone have over one hundred such yards and the average annual output is 15,000 tons each. It was further pointed out that the first steamer ever seen on the Pacific ocean, the Beaver, was only as large as the Cleveland tug boat Harvey D. Goulder, and yet she made a voyage sixty years ago from London, England, to Astoria, Ore. From that time the improvement in steamships was gradual until the modern Atlantic liner was reached. Speaking of the bill now before Congress to subsidize American shipping interests, it was said: "While the bill is heartily endorsed by those who have studied and realized the degraded condition of our foreign shipping trade, there are some who seem to think that the rehabilitation of our merchant marine is a matter that concerns the maritime community only, whereas, it has been clearly demonstrated time and again that the national merchant ships contribute more wealth and provide more general employment to the masses of the people producing them than any other structures of similar bulk or weight.

DETROIT.

Special Correspondence to The Marine Record.

Manager Francomb, a Detroit vessel owner, visited here this week to look after repairs on the schooner John A. Francomb.

Capt. McAlpine and Capt. McIntosh, of the steamers Livingstone and Majestic, have left here for Buffalo to get their boats in order for the season's work.

Capt. Alexander McDougall, general manager of the American Steel Barge Co., says he has nothing to disclose relative to the proposed combine of the steel shipbuilding plants of the Great Lakes, and characterizes the rumors as "newspaper rubbish."

Two weeks ago the best rate on season ore charters offered here was 60 cents. Now a 65 cent rate until November is not being eagerly snatched at. If the majority of tonnage is placed for ore there will surely be a chance for moderate sized tonnage on outside chartering.

Opening freight rates on lumber from Menominee to Chicago will be $1.25, and to Buffalo and Tonawanda $1.75. The lumber purchased by the Paepeke-Leight Lumber Co., of Chicago from the Kirby-Carpenter Co., 13,000,000 feet, will be carried by the steamer John Otis. The steamer C. Hickox will carry lumber cut by the Burns mill for the Forester Lumber Co. of Milwaukee.

Field parties of the Deep Waterway Commission are rapidly assembling in Detroit, and completing their work. In all there were 12 parties out, but eight of them have finished. This week's arrivals are A. J. Himes, who has been on the Oswego route, and J. W. Beardsley, who has been on the St. Lawrence. There are eight assistants with them. Gen. Kidd says the commission will submit its report in December, having completed the surveys and estimates of cost in two years' time.

Preparations for the opening of the Wheeler shipbuilding plant, at West Bay City, are going forward steadily and everything will be in readiness to start up when enough steel has arrived. Orders for stock have all been placed and it is expected to have the yard in full operation by April 1. A large number of the former heads of departments will again be employed, some returning from West Superior, Wis., Newport News, Va., and other shipbuilding centers. Mr. Wheeler states that there has been no negotiations looking toward placing his yard in the alleged shipyard trust, and he knows of no proposition looking to that end.

The Detroit & Cleveland Navigation Co. are contemplating a change in the running of their Mackinaw steamers that will add greatly to the attractiveness of that popular route to the Island of Mackinac. Last season these steamers departed from Detroit on Monday and Saturday nights at 10:30. It is now proposed to start these steamers on the same days, but at 5 p. m. standard time. This change in time will give the tourists an opportunity to view the unrivalled beauties of the Detorit river, the picturesque resorts of the Flats and the town along the St. Clair river. Under the new schedule the steamers will arrive at 7:30 p. m. Sundays and Tuesdays, which will be decidedly more convenient for passengers.

Senator McMillan appeared before the Senate committee on appropriations on Friday last, in support of his two amendments making appropriations for two revenue cutters, and a wind signal station on South Manitou Island. The Senator urged the importance of promptly authorizing the construction of vessels to take the place of those sent from the lakes to the coast during the Spanish war. He read letters from the Treasury Department strongly recommending the appropriation, and suggested early action in view of the fact that at least two years must elapse after the money is set aside before the cutters can be launched. It is possible there may be a hitch in the appropriation for the wind signal station, for the reason that it is properly an adjunct of the Department of Agriculture, and as such ought properly be provided for on the agricultural appropriation bill. As that measure is now out of reach, Senator McMillan hopes the point will not be raised in committee.

BUFFALO.

Special Correspondence to The Marine Record.

The shipyard combine will likely go through but the Union Dry Dock Co. here, as a railroad corporation, is out out of the deal entirely.

Capt. Killeran, who held a survey of the steamer Arthur Orr, reports that it will cost about $56,000 to repair the damage she sustained by stranding on Lake Superior.

Nothing can be learned yet about the insurance rates on hulls and cargoes for the coming season, most of the large lines are placed for a year or two ahead on a policy issued three years ago.

Capt. Limay is here looking after work being done on the steamer John Oades. There is enough dry dock, new and repair work now in sight to keep the river busy until the opening of navigation.

The Union Steamboat Co. has made the following appointments: Steamers—Starrucca, Walter Robinson, master; A. A. Brown, engineer; Ramapo, John H. McDonald, master, Henry C. Jordan, engineer; Chemung, F. B. Huyck, master, George Fritsche, engineer; Owego, John Byrne, master, Reynolds Hill, engineer; Tioga, John Wulke,

master, Albert Simpson, engineer; H. J. Jewett, John Dugan, master, Charles Coushaine, engineer; Rochester, George T. Morris, master, Nelson Johnson, engineer; New York, O'Neil, master, John Caul, engineer.

The Tonawanda Iron & Seeel Company is looking for a fleet of its own. The company is sending out inquiries for vessels and would buy a small number, though possibly not enough to do all the carrying needed. Vessels to trade with Tonawanda must draw not more than fourteen feet and as there are only a few medium draft steel boats available wooden tonnage will likely be secured.

Grain shippers are of the opinion that the proposed new bill of lading will be rejected when the joint meeting for its consideration is held here on March 8th, but vesselmen say that they can force it through if they choose. It will probably be insisted that the house in whose care the cargo comes shall be considered the consignee. This will avoid confusion, and it ought not to be objected to by the shipper.

Prospects of early shipment of coal are very small at present. The cold weather of the early part of the month took practically every ton that most of the shippers had and it reduced the small stocks held by the others. The eastern market is so firm that it is going to take a larger percentage of the output of anthracite than usual, so that there will be no eagerness to ship west any more than is really needed at the opening.

The Australia will go to the Electric elevator as soon as a complication over the delivery of the cargo is settled. When the copy of the bill of lading was presented it was found that it did not mention any consignee and the agents declined to let the cargo go. The original bill is in some New York bank as collateral, and it will have to be amended unless some surety can be furnished. The cargo is worth about $175,000.

Capt. James Drake died at this port on Friday last, aged seventy-three years. Capt. Drake was born in Ireland. He came to the United States when a boy and started to sail on the lakes at the age of twenty-three years. The major portion of Capt. Drake's career was spent in the employ of the Western Transit Co. When he retired from sailing in 1890 he was captain of the steamer Buffalo. Deceased is survived by his wife and five children, Mrs. Walter Voss, Mrs. J. W. Lievers, Miss Drake, Frank M. Drake and Spencer A. Drake.

"Buffalo can have the finest harbor in the world," said Major T. W. Symonds, Corps of Engineers, U. S. A., in charge of the district with headquarters at this port. "There is ample space within the new breakwater for tran sacting all the growing maritime and railroad business conveniently and at a minimum of cost as compared with any harbor in the world. What I want is to get the views of all interested in the establishment of the new harbor lines within the limits of the new breakwater. This is an important matter for negotiations between the civic and federal authorities. The south harbor entrance is 600 feet wide and there is a depth of twenty feet, sufficient to admit the biggest vessel afloat. The maximum in the old harbor is, I believe, about sixteen feet. A certain space must be left free to navigation inside the breakwater, but allowing for all that there seems ample water to accommodate every conceivable interest."

PORT HURON.

Special Correspondence to The Marine Record.

The steamer Westford is being overhauled, both hull and machinery.

Pirates broke into the barge G. W. Wesley and stole a part of her fit out.

The heavy rain will no doubt cause Black river to have another freshet and make trouble for vessels.

They are putting new decks and beams in the steamer Porter Chamberlain.

The steamer A. G. Lindsey is receiving new decks and a general overhauling.

Henry Burton, who spent the past winter with his family in this city, will return to Duluth next week, where he is engaged with the Inman Towing Association.

The tug Lizzie, belonging to Capt. Hughes, which has been lying at the dock in the rear of the St. Clair County Savings bank on Black river, sunk on Thursday afternoon last.

Byron Brown, mate on the steamer Nipigon, belonging to the Whitney Transportation Co., was killed by an accident which occurred upon the boat while she was going through the Welland canal, Sept. 17, 1896. Emma Brown, his widow, brought suit for $20,000 damages. The trial has begun before Judge Frazer, of Detroit.

Horace E. Bunce, of Marysville, part owner of the steamer Coffinberry, died last week after a brief illness of pneumonia. Mr. Bunce was born June 18, 1820, and was a son of Joseph and Sophia Earl Bunce. When five years of age he came with his parents to the state of Michigan. The family came from Detroit to St. Clair on the old steamboat Pioneer and then took a tow boat to Port Huron, where they arrived in 1825. In his early days Mr. Bunce was engaged in lumbering on Black river. He was a member of the state legislature in 1860, and his father, Joseph Bunce, was territorial judge under Governor Cass in the early days of Michigan. For a number of years Mr. Bunce has lived on his farm on the banks of St. Clair river. He was well known and respected by all who knew him. A wife, three daughters and one son survive him, as follows: Mrs. Harvey Kendall, of Marysville; Mrs. E. M. Carleton, of Cleveland; Miss Hattie Bunce, of Marysville, and Horace Bunce, of Pittsburg.

It is understood that the Jenks' Ship Building Co., will locate its plant on the Bunce farm, having secured the promise of the common council committee to secure the right of way for an electric railway to its yards. The company has commenced the building of a large triple-expansion engine with independent pumps for a new boat at the Phœnix Iron Works.

Referring to the recent blockade of Detroit river ferries by ice, the Buffalo Commercial says: "Next winter the railways running into Detroit from Windsor will not be tied up with a blockade boat ferry, but will use the bridge if it is built in time. Everything is ready for work on the new bridge, and it will be located at the south bend of Belle Isle. The structure will be a high bridge, 117 feet above the water, with a clear cantilever spine of 1,300 feet over the Canadian channel, and a total length of cantilever construction of 2,400 feet. There is also to be a steel viaduct 1,000 feet in length, and three truss spans over the American channel 335 feet long each."

Capt. Frank Danger, the retired local inspector of hulls, need not think too much regarding his enforced resignation.

LIEUT. DUNCAN KENNEDY, U. S. N.,
Light-House Inspector Tenth District, stationed at Detroit, Mich.

His predecessor, Capt. John Robinson, was also a good officer, well liked and respected, but he had to get out to make room for Capt. Danger. It has often been stated that politics is no longer an influence in the steamboat inspection service, but a number of vesselmen here think differently, and as Capt. Danger is known as a Democrat who succeeded a Republican, it is now, perhaps, only fair that he should be agreeable to a change about again and step down and out without feeling sore about it in any way.

A dispatch from West Superior announces that the Ohio Coal Co. is about to withdraw from that point for the reason that the Great Northern Railroad Co., which owns the dock property, desires it for its own purposes and will take possession May 1. It is said that President Hill will supply his entire railway system with coal from this point.

A New York exchange has the following: "It is a saying on the water, 'A tug-boat cap'n ain't never fitten for nothin' else, 'cause his head gets too thick.' He generally dies in the harness or retires with a fortune. Twelve years ago a son of one of the millionaires of New York learned to steer a boat, and finally became captain of one. In time he became so wedded to the amusement of looking for tows that his father could not induce him to enter into any sort of terra firma business, and, yielding to the boy's passion, he allowed him $50 a week to continue to scour the harbor. For all that is known he is a tugboat captain to-day, complaining of dull times."

FLOTSAM, JETSAM AND LAGAN.

The steamer City of Paris was chartered at Milwaukee Saturday for a cargo of corn to Buffalo at three cents.

Capt. Wall has been appointed master of the steamer I. Watson Stephenson. Capt. Nicholson sailed her last season.

The C. Reiss Coal Co. of Sheboygan is erecting five new coal lifts at its No. 1 dock. The capacity of the new lifts will be 120 cars per day.

The Chicago Lake Seamen's Union has sanctioned the withdrawal of the district council from the Coast Seamen's Union and the American Federation of Labor.

Betsy and I are out to-day,
And this is the reason why:
I went to town with a load of hay,
And returned with a load of rye.

The Anchor Mill Co., of Superior, has shipped 2,000 barrels of Superior flour to Africa in the past two months. The managers of the mill say they are looking for another large order to be shipped to Africa in a few weeks.

The Duluth towing companies are not going into rivalry, or rather undue competition this season. The Inman and White Line will try to keep level on outside work, but they are both hustling for season contracts, which after all is the keynote to the situation.

The report that the C. H. Starke Dredge & Dock Co., of Milwaukee was to join the dredge combine is denied by Conrad Niederman, president of the company, who says that he knows of no movement to form a combine, and is not in favor of any such movement.

"Well, Uncle Josh," said the chairman of the rural agricultural society, "I suppose we can depend upon you for an exhibit at our county fair this year?" "I reckon you kin," replied Uncle Josh; "I hain't got much in the way uv corn ner oats, but you kin put me down for ther biggest hog in this yer county."

Sandusky wine was used at the launching of the new passenger steamer Pennsylvania at Detroit, Saturday. Miss Streuber of Erie, Pa., broke a bottle of champagne across the ship's bow as she slid into the water. Mr. Louis Streuber of Erie, Pa., who owns a large amount of stock in the boat was present, accompanied by his wife.

Another copper company which will soon make its bow will be known as the Great Lakes Copper Co. The property is situated in the province of Ontario on the same geological formation as the copper mines of Michigan, but unlike the latter its ores are sulphates of copper and are said to be also rich in gold. C. M. Boss, for four years mining inspector of Michigan, will be the superintendent, and F. H. Begole, of Marquette, a director of the Mass and Victor companies, will be on the Great Lakes Board. The new company will be incorporated under the laws of Michigan.

The importance of our carrying trade on the ocean may be gathered from the 11th census report which shows that in 1889 there were 114,736 persons employed "making ordinary crews on all operating craft," in the United States, to whom were paid in wages $41,729,842, an average per employe of $364 during that year. The total gross earnings of all vessels owned in the United States amounted, in 1889, to $166,838,776, with expenses amounting to $130,237,970, for wages, food, fuel, repairs, and all purposes, with net earnings of $36,580,806. This includes American vessels engaged in the foreign trade.

Capt. Craig, of Port Arthur, Ont., is contemplating a trip to Thunder Cape and probably to Isle Royale, at any rate for a distance toward the latter point, in order to ascertain the condition of the ice between the cape and island. This he will do for the information of a firm of Buffalo vessel insurance agents who are desirous of inspecting the steamer Harlem, which was wrecked on the outer side of Isle Royale last fall. The wreck lies about 20 miles from Passage Island. Evidently the foreign insurance companies interested in the stranding are desirous of reaching a settlement of the claim so as to wind up the year's business.

The opinion seems to be general among vessel men that the opening this year will usher in one of the most prosperous seasons on record, owing to the great demand for iron.

WISCONSIN VESSEL TAXATION.

Following is the full text of the bill introduced by Senator Mills, of West Superior, Wis., for "regulating the taxation of steam vessels, boats and other water craft:"

The people of the State of Wisconsin, represented in Senate and Assembly, do enact as follows:

Sec. 1. That in consideration of an annual payment into the state treasury by the owner of any steam vessel, barge, boat or other water craft, owned within this state, or hailing from any port thereof, of a sum equal to three cents per net ton of its registered tonnage thereof, such payment shall be received in lieu of all taxes, and said steam vessel, barge, boat or other water craft shall be and the same is hereby made exempt from all further taxation, either state or municipal, upon the payment of the sum herein provided.

Sec. 2. The owner of any steam vessel, barge, boat or other water craft hailing from any port of this state, desiring to comply with the terms of this act, shall annually on or before the first day of July file with the state auditor a verified statement in writing, containing the name, port of hail, tonnage and name of such steam vessel, barge, boat or other water craft, and shall thereupon pay into the state treasury a sum equal to three cents per ton of the registered tonnage of said vessel, and the treasurer shall thereupon issue his receipt therefor.

Sec. 3. The state treasurer shall annually on or before the first day of December, pay into the county treasury of any county wherein is located the port of hail of any steam vessel, barge, boat or other water craft complying with this act, one half of all moneys so received from any vessel or other water craft where port of hail is within said county.

Sec. 4. This act shall be in force from and after its passage and publication.

A similar bill was introduced in the Assembly on February 14th, by Mr. Hoehle, who represents the 1st district of Douglas county in the lower house. It is but proper to state that both measures were introduced by request.

ANTI-LITHON COMPOSITION.

Very rarely, if ever, is water to be obtained which can be safely used for the purpose of feeding boilers without undergoing some preliminary preparation. The methods of treatment usually adopted which causes pitting, corrosion, and the formation of scale within the boiler are, broadly speaking, of two kinds—one mechanical, the other chemical. We use the word "chemical" in the wider sense, for the compositions such as the one under consideration are extracted from purely vegetable ingredients; the use for this purpose of what are generally known as chemicals, being deprecated as having an injurious effect on metals. The water is either treated by filters or feed-water heaters, which by their mechanical action eliminated some of the harmful properties, or the desired result may be obtained by mixing with the feed-water some substance which shall produce the same effect. It is hardly necessary or possible at this stage, when so much has been said regarding the prolongation of boiler life, the increased efficiency and consequent saving of fuel by reason of the fire acting on a clean boiler, and not on a metal that is covered everywhere with scale, and the many other incidental advantages which those who properly prepare their boiler feed have over those who do not—if there should be any such—to add anything more useful on this head. The really careful man will probably use both the mechanical and chemical methods, of which there are no lack, but if the choice has to be made between them, the chemical method seems somewhat more simple. For a long time various compositions have been sold for the purpose of eliminating from ordinary water its harmful properties, and converting it into an innocent boiler feed. Of these Anti-Lithon is probably one of the best and longest known. Anti-Lithon, as was intimated above, though producing a chemical change in the water which it is mixed, is manufactured entirely from vegetable extracts, and contains no soda, muriate of ammonia, alkali, or mineral acid which, though rendering the water more immediately suitable for boiler feed, would, in a short time, injuriously affect the boiler plates and the metal fittings.

Its action in the boiler water is as follows: Some of the ingredients adhere to the plates and tubes, forming a fine, soft, filmy coating on the iron, which protects it from the attack of any deleterious matter in the water, and prevents the formation of scale; the other ingredients of the composition (in solution) precipitate all heavy matters in the water, and thus prevent them from forming into scale. This precipitation is easily disposed of by opening the blow-off cock once a day, for a few seconds only, when the steam is at low pressure. As this composition gives off a perfectly pure steam, it is highly valuable to brewers, distillers, sugar refiners, dyers, paper makers, ice manufacturers, and others.

To steamship owners a composition of this kind is especially valuable, because the earning capacity of a ship depends so largely on its being in constant active employment, and every day spent in port for the purpose of renewal or repairs means so much loss. Ships are constantly detained and kept idle while their boilers are being chipped and otherwise attended to, and any method by which this overhauling and chipping may be rendered less frequently necessary is naturally regarded by owners with favor. It is not surprising then to find the names of numerous shipping firms and companies among the constant users of Anti-Lithon, and the manufacturers hold various testimonials from this class of boiler owners, though it has perhaps, hitherto, been more employed by the owners of land boilers. But perhaps the best evidence of the usefulness of this composition is the fact that it is recommended by the principal boiler insurance companies, who have a strong interest to recommend only that which is best calculated to save them from having to put their hands in their pockets. The method of using is simple, though on account of the great varieties of boilers and different natures of water, it is hard to lay down hard and fast rules as to the quantity of composition that should be employed. But in every case sufficient should be injected to keep the water in the guage glass of a light chocolate color; with marine and multitubular boilers the injection of two gallons for every hundred nominal horse power at starting and the addition of a further half-gallon per hundred horse power on every subsequent day of the voyage will generally be found sufficient. For stationary boilers the quantity has been fixed at one gallon per twenty-five nominal horse power when starting and a further quart per same horse power per diem afterward, but with all classes of boilers the water in the guage glass should be maintained of a light chocolate color.—The Mariner.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

Cities Where Stored.	Wheat. Bushels.	Corn. Bushels.	Oats. Bushels.	Rye. Bushels.	Barley Bushels.
Buffalo	1,869,000	55,000	28,000	26,000	667,000
Chicago	4,195,000	10,998,000	1,466,000	501,000	820,000
Detroit	303,000	465,000	7,000	13,000	2,000
Duluth and Superior	7,115,000	4,121,000	1,490,000	251,000	387,000
Milwaukee	37,000	.....	4,000	2,000	82,000
Montreal	26,000	17,000	258,000	3,000	18,000
Oswego	.....	119,000	.....	.....	50,000
Toledo	513,000	1,082,000	59,000	4,000	.....
Toronto	90,000	.....	17,000	.....	21,000
Grand Total	29,920,000	31,821,000	9,369,000	1,504,000	2,674,000
Corresponding Date, 1897	34,088,000	40,870,000	13,473,000	3,660,000	2,165,000
Increase	302,000	1,000	693,000	.....	.....
Decrease	.....	.....	.....	36,000	98,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

TREASURY DECISIONS.

Treasury Department,
Office Supervising Surgeon-General
Marine Hospital Service,
Washington, D. C., Feb. 11, 1899.

To commissioned officers, acting assistant surgeons, and others concerned:

Paragraph 381 of the Revised Regulations for the government of the United States Marine Hospital Service, approved November 29, 1897, is hereby amended so that it shall read as follows:

During the season when navigation is closed at any port by reason of ice or low water, seamen applying for relief at such ports shall be entitled to same, provided they present the documentary evidence required in paragraph 375, which must show that the applicants were employed within sixty days immediately preceding the said closure of navigation and it must be satisfactorily shown that the disease or injury is not the result of employment on shore, nor the result of vicious habits.

This amendment will be entered in the official copy of the Regulations at each station by the officer in charge, as required by the letter of promulgation, page 3, Regulations Marine-Hospital Service.

Walter Wyman,
Supervising Surgeon-General U. S. M. H. S.

Approved:
O. L. Spaulding, Acting Secretary of the Treasury.
Executive Mansion, Feb. 11, 1899.

Approved:
William McKinley.

CEMENT IN SEA WATER.

There is no subject which has given the civil engineer more anxiety than that of providing a concrete which shall be able to withstand the effects of sea water, and to a lesser extent those arising from the action of impure harbor waters in inland seas or rivers. The two chief factors to be provided against are sulphur compounds and free lime. If there be more than 1½ per cent. of sulphuric acid in the cement trouble is to be looked for, and if there be any free lime the latter is rapidly taken up by the sulphuric acid of the water and is washed out, its place is then filled by magnesia and disintegration results from the action of the same upon the mass. The same remarks apply to cement exposed to air, but not to the same extent, for the action of the acids in the air is ordinarily not so energetic as those in water. Carbonic acid has been recommended by the highest authorities as an antidote to sulphuric acid and if it can be supplied to any free lime in cement before another acid attacks it the lime is fully protected. Where there is little sulphuric acid and no free lime in Portland cement, as in the case with the best qualities, no danger is to be apprehended. But often free lime exists unknown to the user and sometimes the manufacturer, owing to demand, sends out cement before it is ready for use.

A United States patent has just been secured by Mr. H. J. Livingston, of Baltimore, which, among other advantages, overcomes the above drawbacks and enables any ordinary Portland cement to be used without risk. The inventor has discovered that a mixture of carbon, hydrocarbon and slaked lime with Portland cement will neutralize any free or uncombined lime accidentally or negligently left in it, therefore assuring its permanence in ordinary sea or harbor work as well as in land work. He has ascertained that a very large proportion of lime hydrate can be added to cement, even up to 125% without prejudicing its hydraulicity, but he states that an addition of 15 or 25 per cent. gives the best results. If 15 per cent. of lime hydrate be added the cement is stronger than Portland and carries sand better, while if 25 per cent. be added the mortar is much stronger than that made from pure Portland, and in about three months the neat cement so improved and altered is equal to Portland and drawing ahead of it.

The advantages of Portland cement, treated as proposed by Mr. Livingston, are: No gypsum is required in the manufacture; it is very slow setting; cracking is almost absolutely prevented even under the most trying conditions; the cost of manufacture is lessened, and beyond all these it is more plastic and more adhesive than ordinary Portland.

Slag cement has never been a success, owing to its high percentage of sulphur and its free lime, but experiments have shown that a slag cement which disintegrated from these causes when treated with an equal quantity of slaked lime and the required carbon, preserved both its hydraulicity and its unaltered form and gave almost the same strength when used with sand as the original slag cement and sand. This probably will suggest to some of our iron slag producers a method of utilizing part at least of their waste product.

There is no adulteration of cement in this new process. The carbon and oxygen which are always absorbed from the air and complete the cementing process are only introduced at an earlier stage by the application of this invention and thereby secure their proper place, which they might otherwise be deprived of by some dangerous intruder.

There is a bill now in Congress, favorably reported from the proper committees in each branch, "to promote the commerce and increase the foreign trade of the United States, and to provide auxiliary cruisers, transports and seamen for Government use when necessary." The passage of that bill will restore a large share of foreign carrying to our own citizens, who will have the ships built by American labor, and then officered and manned by Americans, and, to that extent, keep the money at home now spent abroad. For the compensation to American shipowners that will be necessary under this bill—estimated by our Commissioner of Navigation to average from $5,000,000 to $6,000,000 a year for twelve or fifteen years—the United States Government will be building up auxiliary cruisers and training possible future seamen for the navy, in the always possible contingent of war.

The ice is of such thickness between the Beaver Islands and the mainland that the natives make frequent trips across it. Capt. Gallagher and Manager Endress recently crossed between Scott's Point and St. James, a distance of eighteen miles.

MARITIME LAW.

Lowell, District Judge. The libelant in this case is the owner of the schooner James Baird, upon which a cargo of hard-pine timber and flooring was shipped from Pascagoula, Miss., to Boston, consigned to the respondents.

The libelant contended in argument that the charter party provided expressly for a discharge at the rate of 25 M. per day, but in this I think he is mistaken, and that the express agreement relates only to the rate of loading, although a rate of loading, stipulated by the parties, may, in some cases, be evidence of what is a reasonable rate of discharge. The libelant further alleged a custom of the port of Boston fixing 25,000 feet per day as a reasonable rate for the discharge of this kind of flooring, while the respondents alleged an established custom of less than 20,000.

The evidence on both sides satisfies me abundantly that no customary rate, properly so-called, exists for the discharge of this kind of lumber. The appropriate office of a custom is to interpret the otherwise indeterminate intentions of the parties or to ascertain the true meaning of a particular word. See The Reeside, 2 Sumn. 567, Fed. Cas. No. 11,657. To be valid, a custom must be not only established and reasonable, but certain and definite. One of the libelant's witnesses, for example, testified that the custom calls for a discharge of 25,000 to 30,000 feet, one of the respondent's witnesses, in like manner, testified to a customary rate of 17,000 to 20,000. I do not think either custom is possible. There might be a definite rate of discharging lumber fixed by custom for the sake of convenience, as 100 tons a day, Sundays excepted, is said to be the customary rate for the discharge of coal. See Thacher v. Gas-light Co., 2 Low 361, 364, Fed. Cas. No. 13,850. A custom which fixes the rate at from 17,000 to 20,000 feet, however, is an impossibility, unless the minimum is the privilege of one party and the maximum that of the other, or unless the custom defines the circumstanoes under which every rate between the maximum and minimum becomes customary. Neither condition exists here, and the meaning attached to the words "custom" and "customary" is well defined by the witness Childs.

The charter party in this case gave the respondents "one clear day" in which to provide a berth for the schooner. I need not here determine precisely what these words mean under all circumstances. In this case they bound the respondents to furnish a berth where the Baird could discharge throughout the whole of May 23rd. In fact, no berth was furnished until May 26th, and the libelant lost the use of May 23rd and May 25th, except so far as he employed them in discharging the timber, something less than half a day's work. It is practically admitted that no discharge is to be expected on Sundays and holidays, and, so far as kiln-dried lumber under deck is concerned, I think it is fairly established that no discharge is to be expected on rainy days.

The libelant contends that the discharge was hindered at Mystic Wharf by its inconvenient arrangement and management, and by the inability of the surveyor properly to keep up with the stevedore. The evidence to this effect is not very definite. That Mystic Wharf is somewhat less convenient than other wharves in Boston appears pretty plainly, and the rate of discharge thereat seems to be somewhat lower than at some other wharves. I am not convinced, however, either by the evidence or by the argument, that a reasonable rate of discharge is necessarily the same at all wharves and under all circumstance. The wharves in Boston are not, in fact, equally convenient for the discharge of every sort of cargo, and no custom has been proved which requires me to disregard the difference among them. Doubtless a wharf may be so inconveniently arranged or constructed that the consignee will be responsible for the delay in discharging thereat, but the reasonable convenience required of a wharf is not the same thing as the highest degree of convenience either imaginable or actually existing. Taking everything together, I think that the libelant was improperly delayed at Mystic Wharf somewhat, but not very much. I allow a day and a half before discharge began and one day thereafter.

The removal to the respondents' wharf was by the orders of the respondents, and for the delay caused thereby they are responsible. The evidence does not show distinctly how much delay was caused by the moving and by the inability to bring the vessel immediately alongside. Evidently it was small, and I shall allow only an additional half day's demurrage therefor. The vessel having been thus delayed three working days by the fault of the respondents, it follows that she ought to have finished her discharge by June 12th instead of June 16th, and there must be a decree for four days' demurrage, as one Sunday intervened.

THE HEAVENS FOR MARCH.

Astronomical data for March, 1899, furnished by the Washburn observatory:

Mercury is an evening star and reaches its greatest apparent distance from the sun on March 24th. The planet will then set at a point of the horizon somewhat north of where the sun goes down at that time, and therefore may be readily seen soon after sunset. Venus is the brilliant morning star seen in the southeastern sky; but the planet is diminishing in brilliancy as its motion about the sun draws it farther from the earth. Mars is the bright, ruddy planet which reaches the meridian somewhat south of the zenith in the middle or early evening. Jupiter rises into view in the southeastern sky in the late evening and Saturn is seen in the same part of the sky in the early morning.

The times of sunrise and sunset for the month at Milwaukee are as follows:

	SUNRISE.	SUNSET.
March 1	6:28	5:41
" 11	6:11	5:53
" 21	5:53	6:05
" 31	5:36	6:17

The sun in its apparent, northward motion, crosses the line March 20, 1:38 p. m.

The times of the moon's phases are:

Third Quarter	March	4,	10:07 p. m.
New Moon	"	11,	1:53 p. m.
First Quarter	"	18,	9:24 p. m.
Full Moon	"	27,	12:18 p. m.

The principal fixed stars visible during the month in the evening hours are: To the west, Capella, Aldebaran, the Pleiades, Sirius and the bright stars of the constellation Orion; near the meridian, Procyon, Castor and Pollux; to the east, Regulus.

AMENDED STEAMBOAT RULES AND REGULATIONS.

TREASURY DEPARTMENT,
OFFICE OF THE SUPERVISING INSPECTOR GENERAL,
WASHINGTON, D. C., FEB. 15, 1899.

To Supervising and Local Inspectors of Steam Vessels and Others:

At the regular meeting of the Board of Supervising Inspectors of Steam Vessels, held in the Lenman Building, Washington, D. C., January and February, 1899, in pursuance of section 4405, Revised Statutes of the United States, amendments were made to section 4, Rule I; sections 2, 14, 15, 21, 38, and 40 (new), Rule II; sections 1, 7, 10, 14, 15, and 26, Rule V; section 8, Rule IX; sections 8, Rule X; and section 6, Rule II, of Practice, of the General Rules and Regulations.

The pilot rules for the Atlantic and Pacific coast inland waters were amended by adding thereto a paragraph forbidding the use of cross signals.

The resolution, printed on page 15, Pilot Rules, Atlantic and Pacific coast inland waters, and on page 10, Pilot Rules, Western Rivers, was amended by substituting, in the sixth line, second paragraph, the word "four" in place of the word "twelve," where such word occurs.

The Board, under the authority conferred upon it by section 4429, Revised Statutes, approved coil and pipe boilers presented by the following named persons and firms, when such boilers are constructed in all their parts of wrought iron, steel, or cast steel, in the manner as provided in the general rules of the Board:

James Carnegie, New York, N. Y. (Type B); tug Maytham, Houghton, Mich. (copper fire furnace, special); Peter Cone, Jacksonville, Fla., A. D. Davis, Yonkers, N. Y.; Detroit Water Tube Boiler Co., Detroit, Mich.; F. W. Edwards, Bayonne, N. J.; Benjamin P. Emery, Kennebunkport, Me.; F. G. Gibson, Dorchester, Mass.; Henry E. Hull, Clinton, Conn.; J. H. King, Daytona, Fla.; J. W. McQueen, Detroit, Mich.; Edward J. Moore, Philadelphia, Pa.; Jacob Ruf, Newark, N. J.; T. W. Rucker, St. Louis, Mo.; Gas Engine and Power Co., and Chas. L. Seabury & Co., of New York, N. Y. (Kanawha type); Robert White, Brooklyn, N. Y.; Samuel T. Williams, Baltimore, Md. (modification of boiler approved in 1894); Beder Wood, Moline, Ill.

JAS. A. DUMONT,
Supervising Inspector General,
President of the Board of Supervising Inspectors.

Approved Feb. 15, 1899.

O. L. SPAULDING, Acting Sec'y of Treasury.

THE Chisholm & Moore Manufacturing Company (formerly Moore Manufacturing Company), manufacturers of chain hoists, electric and air motor hoists, cranes and trolleys, have favored us with a copy of their new catalogue, neatly illustrated, and giving price lists, etc.

NORTH-WEST COMMERCIAL DEVELOPMENT.

Nowhere has this law of commercial economy been more completely illustrated than about the head of the lakes in northern Wisconsin. In prehistoric times this was coveted territory, a battleground, where two most powerful and intelligent tribes contended through long ages for its possession. Professor Turner has called it the key to the continent, for its small lakes and tributary rivers form connecting links between its great lake and every part of the continent to the east by way of the Sault to the Atlantic, to the south by the Brule or the St. Louis and St. Croix to the Mississippi and the Gulf, to the north and west by the Grand Portage to Lake Winnipeg, thence by way of the Saskatchewan to the Pacific, by the Severn to Hudson's Bay, or by the valley of the MacKenzie to the Arctic and across to Asia. Then the smaller streams and the trail through "forests primeval" were the routes of an extensive interior commerce. Of this there are many evidences. It has been estimated that the copper had been removed from the ancient mines along Lake Superior for an aggregate of one hundred and fifty miles in veins of varying thickness. Champlain found specimens of fine copper among the Indians of the lower St. Lawrence, which they told him came from the land of the mighty water far to the west. But the greater portion of the ore was distributed throughout the south and west, even as far as Mexico; for the Mexicans used considerable quantities of the metal, and there appears to be no evidence that copper was mined in Mexico or Central America prior to the advent of the Spaniards.

For two hundred years from the time of Nicollet's visit to Wisconsin at Green Bay, in 1634, the fur trade was the almost exclusive object of commerce. The Great Lakes and the St. Lawrence became the great highways of this trade and teemed with various craft carrying inland voyagers and equipments, or returning laden with peltry. The coureurs de bois threaded every stream and forest, a multitudious advance guard of civilization penetrating even to the Pacific.

With the British occupation in 1763 came a change of policy. Instead of sending out an army of trappers, their plan was to trade direct with the Indians at their posts, and for this purpose the Northwest Company established emporia at Detroit, Macinac, the Sault, the Grand Portage, and at Fon du Lac near the head of Lake Superior. This change is significant to northern Wisconsin interests in several ways. The old trans-continental trails so frequently followed by the French from Lake Superior to the Pacific, with the intimate knowledge of the northern country, became forgotten; a fact which had its bearing in the location of the first Pacific railroad along a more southerly route, instead of by this shorter, cheaper, and natural route of the great northern valleys. It opened the upper St. Lawrence and Lake Erie route to the traffic, instead of compelling it to follow the more northerly route of the French by way of the Ottawa river, Lake Nipissing and the Georgian Bay. This latter fact, and the monopolization of the trade by the powerful Northwest Company, led to the first deep waterways improvement. Canals to overcome the Cedar cascades and the Couteau rapids were begun in 1779 and completed in 1781. These were six feet wide and two and a half feet on the sills. In 1797 the first canal at the Sault was begun, and was used by the Northwest Company to take up loaded canoes. These were usually about 30 feet in length and of about three tons burden.

The Canadian government has from time to time enlarged the canals of its St Lawrence system to 5, 9, 12, 14 feet depth over sills.

GOV. ROOSEVELT, of New York, has signed the bill to stop the use of "Old Glory" for advertising purposes. There is a strong public sentiment against making the American flag common or putting it to unseemly use in degrading places. We hope other states will follow the example of the New York Legislature in adopting such a patriotic law. The law provides as follows: "Any person who in any manner, for exhibition or display, places or causes to be placed any inscription, design, device, symbol, name, advertisement, words, characters, marks or notice whatever upon any flag, standard, color or ensign of the United States, or flag of this State, or appends them in any way to such flag, or publicly mutilates, tramples upon, or otherwise defaces or defiles any such flag, whether the flags are public or private property, shall be deemed guilty of a misdemeanor. It is provided, however, that flags, the property of or used in the service of the United States or of this State, may have inscriptions, names of actions, words, marks or symbols placed thereon pursuant to law or authorized regulations."

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CLEVELAND, O., MARCH 2, 1899.

OUR thanks are due the Light-House Board for a copy of the annual report of the fiscal year ended June 30, 1898.

IT is beyond the comprehension of the ordinary citizen who desires certain statistics or data to understand why the United States Government can't issue facts or figures under about six months' notice. The public printing office at Washington must certainly be winged.

THE cargo of the steamer Arthur Orr, which was stranded on the north shore of Lake Superior last fall, was purloined by nearly everyone who could reach for it. This sort of thieving has been much too common on the lakes and it is a great satisfaction to learn that insurance companies have brought a number of the robbers to time and made them return the stolen merchandise taken from the wrecked steamer.

IT WOULD be an economy well based if the officers of the Lake Carriers' Association could inaugurate this year a court of arbitration for the settlement of all claims, but chiefly that of towage, salvage and collisions. The tribunal might consist of members of the executive committee of the association assisted by men of mercantile experience and such legal talent as might be thought necessary for adjustment of the judicial, or rather documentary phases of the cases which would come before the voluntary adjudicators. On a municipal basis, the president of the Chamber of Commerce, for instance, might be appointed chairman of the arbitration court, at whatever city the case or claim was to be considered and decided. In view of the latter event it would be well for the representatives of the friendly litigants to sign an agreement whereby all parties would recognize and be bound by the arbitral decision of the mutually empowered court dealing with the subject matter, although, in some instances this court might decline to provide grounds for the settlement of the case, yet such a course would not debar either parties from having recourse to or seeking satisfaction before a regularly constituted legal tribunal. Such a departure or innovation as this, the court of arbitration would find work only among those owners who were inclined to settle any differences of statements, opinions, etc., in an amicable, and as a consequence, equitable manner, nor would it be of any use for those who are, or might be, litigiously inclined. On the other hand, those agreeing to abide by the decision of the arbitration board should stand ready to give any security required by the court for the satisfaction of the costs incurred, including the findings of the court. There are long drawn out cases by the score and it is safe to say that hundreds of thousands of dollars are at this moment involved in legal technicalities which might have been settled at a minimum cost to all interested, but which will ultimately make those pay the piper who are kept dancing to the tune of the courts of admiralty.

MARINE INSURANCE.

The competiton may be so brisk that risks on hull insurance may no longer be considered duly remunerative to the underwriter, but we doubt it very much. Let us glance for a moment at the annual statement of the Atlantic Mutual Insurance Company, of New York, the largest mutual marine company in the world. The statement of its affairs on the 31st of December last shows assets amounting to $10,874,923. It has just paid 6 per cent. interest to the holders of the outstanding certificates of profits; it has redeemed and paid the outstanding certificates of the issue of 1893, and it has paid a dividend of 40 per cent. on the net earned premiums of the company for last year—the participators in the dividend being the policy-holders, the company being worked on the mutual basis. The question, however, is to the point of whether there is any profits in the business of underwriting, whether such profits revert to the assured or the private underwriter? Is the business properly and economically conducted a lucrative one? Well! the foregoing annual report would indicate that the Atlantic people are making a Klondike out of it, and if they do why can't others? Though it may be admitted that the war risks of last year helped to swell the present annual profits.

Quoting from the annual report of the British and Foreign Marine Insurance Company, the statement of accounts shows that the underwriting account for 1897, resulted in a profit of £14,421 17s. To this sum must be added the interest account for 1898, amounting to £48,956 17s. 1d., and profit on investments realized £3,732 19s. These sums, with £161,924 8s. 2d. brought forward from 1897, leave to the credit of profit and loss account £229,036 1s. 3d. An interim dividend of 8s. per share was paid on the 1st July last, and a further dividend has been declared of 8s. per share, and a bonus of 4s. per share, both free of income tax, payable on the 16th February, making a distribution of 20s. per share, or 25 per cent. for the year. After providing for income tax, the balance of £160,752 17s. 11d. remains to be carried to next account. The premiums taken for the year amount to £593,618 os. 8d., and the claims settled to £285,786 1s. 4d., leaving a net balance, after deducting expenses, of £294,573 18s. 8d. at the edit of underwriting account.

Having quoted in the foregoing the annual reports of leading assurers on both sides of the Atlantic we may leave it for our readers to judge whether from 10 to 40 per cent. earnings, or, as in the two cases mentioned, 25 and 40 per cent. is "hard tack" or "gilded gingerbread" and if underwriting hulls and cargoes on the lakes is at all likely to go to the demnition bow wows. Candidly, we don't think so.

A WISCONSIN VESSEL ASSESSMENT BILL.

Senator E. G. Mills, of West Superior, Wis., last week introduced a bill in the upper house of the legislature which if enacted into law will practically exempt from taxation all classes of vessel property owned within the borders of the state of Wisconsin.

It is proposed to place a tax of three cents per net ton on craft, which shall be in full payment for all demands against such property. One half of this sum shall be paid to the state and the balance to the county in which the property is owned.

In order to show the effect it will have if enacted into law the Sturgeon Bay Advocate examined the official records on file at the custom house and finds that the entire fleet of seven steamers and tugs owned by the Leathem & Smith Towing and Wrecking Co., of Sevastopol will pay a tax of $34, although the aggregate valuation of the property is given at $100,000. Also that the steamer Virginia, of the Goodrich line, whose value is upwards of $100,000 would pay less than $30. The palatial steamers North West and North Land, which cost upward of $500,000 each, and are the property of the Great Northern Railway Co., would pay about $70 apiece. A steam yacht, regardless of whether she cost $15,000 or $25,000, providing her tonnage does not exceed 15 would get off with the insignificant sum of 45 cents.

On such favorable terms of taxation, providing the law was enacted, Wisconsin would no doubt soon become the hailing State for a majority of the lake tonnage. Whether the bill is an injudicious one or otherwise, it is not our province to dwell upon at this time.

IT IS an unpleasant fact that, at the present time, more than 85 per cent. of the foreign commerce of the United States is conducted by means of foreign ships, and not only with the countries under whose flag such ships sail, but with other countries having little or no ocean marine, the result of which is that there is a constant, powerful and successful influence exerted in favor of the productions and manufactures of the country whose flag is borne by the trading ship and by all the accessories of government aids and of mercantile and financial influences in the ports and countries to which such ships go. The United States should adopt a corresponding policy, and by the most liberal inducements rehabilitate our merchant marine, and try, by every fair means, to regain the position we once occupied, and which we ought, must and certainly will occupy in the future.

FOR LIGHT-HOUSE KEEPERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR NINTH DISTRICT
CHICAGO, ILL., Feb. 27, 1899.

POSITIONS IN THE LIGHT-HOUSE SERVICE.

Notice is hereby given that an examination for the position of master of light-vessel in the Light-House Service, in this district, which includes Lake Michigan, Green Bay, and tributary watars lying west of a line drawn across Straights of Mackinac at Macinac Point, Michigan, will be held March 30th 1899.

Persons who wish to apply for the examination for the foregoing position should obtain the proper blank forms of application from this office, either in person or by mail, and after filling them out return them to this office. Applicants need not appear in person.

All applications received will be examined, the applicants graded according to merit, and a list of those eligible for appointment sent to the Light-House Board.

This notice is issued in place of the one dated January 31st, 1899.

C. O. ALLIBONE, Commander, U. S. Navy,
Inspector 9th Light-House District,
Chairman Local Civel Service Board.

THE SAILING VESSEL LAW.

Jas. A. Dumont, Supervising Inspector General of Steam Vessels, has taken steps to enforce the new law which places sailing vessels and their masters and mates on the same footing as steamers in respect to the inspection of hulls and the licensing of the navigators.

The law requires that owners, agents, masters and chief mates of sailing vessels of over 700 tons (gross) and of other vessels and barges of over 100 tons (gross), carrying passengers for hire, shall after July 1 have the hulls of such vessels inspected and certified by the local inspectors of steam vessels. Masters and chief mates must be examined and licensed, and after July 1 it will be unlawful for owners to employ any person to serve as a master or chief mate who is not licensed. The penalty will be $100 for each offense.

Local inspectors may license as masters and chief mates of sail vessels of over 700 tons upon receipt of satisfactory documentary evidence that said masters or mates have been actually employed as such officers on vessels of the tonnage named for twelve months preceding the application, if free from color blindness. Applicants who have had no previous service as master or mate, except on rivers and on the Great Lakes, must be duly examined in navigation.

No master shall be licensed who has not served one year as chief mate, nor shall any person be eligible as chief mate unless he can furnish satisfactory documentary evidence that he has had at least three full years' experience on sail vessels of 300 gross tons and upward.

The local iuspectors will be prepared to receive applications on or about May 1, 1899. Applications by owners of sail vessels of 700 tons and upward, and of all other vessels and barges over 100 tons burden, carrying passengers for hire, will also receive consideraton on and after May 1. A failure on the part of an owner to have the vessel's hull inspected and certified will subject him to a penalty of $500.

RECEIPTS of grain at the head of the lakes last week were again large. Wheat receipts amounted to 788,329 bushels, and corn receipts, 385,473 bushels. Receipts of other grain in bushels were as follows: Oats, 267,669; rye, 17,110; barley 25,246; flaxseed, 17,660. The shipments were comparatively light. The wheat shipments equalled 22,234 bushels, and the corn, 4,286, while the shipments of rye amounted to 6,525 bushels, and of barley 1,188 bushels. Mills took 95,084 bushels, leaving in store 7,115,475 bushels. The amount afloat in the harbor is 267,708 bushels. The increase in stocks amounted to 671,011 bushels. Stocks of other grain now in store are as follows, in bushels: Corn, 4,120,588; oats, 1,483,653; rye, 250,692; barley, 386,568; flax, 1,075,388.

LAKE LIGHT-HOUSE DISTRICTS.

NINTH DISTRICT.

This district includes all aids to navigaiion on Lake Michigan, Green Bay, and tributary waters lying west of a line drawn across the Straits of Mackinac just east of Old Mackinac Point light-station, Michigan. Inspector, Lieut. Commander C. O. Allibone, United States Navy; engineer, Maj. Milton B. Adams, Corps of Engineers, United States Army.

There are in this district: Light-houses and beacon lights, 106; light-vessels in position, 4; fog signals operated by steam, 31; fog signals operated by clockwork, 7; buoys in position, 108; gas-lighted buoys, 6; steamer Dahlia, buoy tender, and for supply and inspection; steamer Amaranth, engineer's tender, for repairs and construction; steam launch Lotus, for construction and repair.

TENTH DISTRICT.

This district extends from the mouth of the St. Regis river, St. Lawrence river, New York, to the mouth of the River Rouge, Detroit river, Michigan. It embraces all aids to navigation on the United States shores and waters of Lakes Erie and Ontario and the upper part of the St. Lawrence, the Niagara, and the lower part of the Detroit rivers Inspector, Commander Franklin Hanford, United States Navy; engineer, Col. Jared A. Smith, Corps of Engineers, United States Army, until August 19, 1897; since then Maj. W. S. Stanton, Corps of Engineers, United States Army.

In this district there are: Light-houses and beacon lights, 78; light-vessels in position, 4; fog signals operated by steam, 8; fog signals operated by clockwork, 5; gas-lighted buoys in position, 17; other buoys in position, 134; steamer Haze, buoy tender, and for supply and inspection; steam barge Warrington for construction and repair.

ELEVENTH DISTRICT.

This district extends from the mouth of the River Rouge, Detroit river, Michigan, to the westerly end of Lake Superior. It embraces all aids to navigation on the United States shores and waters of Lakes St. Clair, Huron, and Superior, the upper part of the Detroit river, the St. Clair and St. Marys rivers, and that part of the Straits of Mackinac lying to the eastward of a line drawn across the Straits just to the eastward of Old Mackinac Point light-station, Michigan. Inspector, Lieut. Commander Duncan Kennedy, United States Navy; engineers, Maj. Milton B. Adams, Corps of Engineers, United States Army.

There are in the district: Light-houses and beacon lights, including 17 post lights, 217; light vessels in position, 3; day or unlighted beacons, 1; fog signals operated by steam, 30, fog signals operated by clockwork, 5; gas-lighted buoys in position, 6; bell buoys in position, 3; other buoys in position 377; steamer Marigold, buoy ender, and for supply and inspection; steamer Amaranth, for construction and repair; steam launch Lotus, for construction and repair,

THE LIGHT-HOUSE SERVICE.

At the close of the year there were under the control of the light-house establishment the following named aids to navigation: Light-houses and beacon lights, 1,179; light vessels in position, 44; light vessels for relief, 6; electric lighted buoys in position, 11; gas lighted buoys in position, 55; fog signals operated by steam, caloric or oil engines, 158; fog signals operated by clock work, 209; post lights, 1,739; day or unlighted beacons, 439; whistling buoys in position, 70; bell buoys in position, 116; other buoys in position, including pile buoys and stakes in Fifth District and buoys in Alaskan waters, 4,707.

In the construction, care, and maintenance of these aids to navigation there were employed: Steam tenders, 31; steam launches, 11; sailing tenders, 2; light keepers, 1,339; other employes, including crews of lightships and tenders, 1,226; laborers in charge of post lights, 1,356.

THE Falls Hollow Staybolt Co., Cuyahoga Falls, O., are in receipt of a large order from the W. & A. Fletcher Co., of Hoboken, N. J., for safety hollow staybolt iron, made of best quality steel, to be used on a large government contract. The Falls Co., are in a position to fill orders promptly for their product made from either steel or charcoal iron, and guarantee perfect satisfaction.

REQUIREMENTS FOR BOILER TUBES, UNITED STATES NAVY.

The Bureau of Steam Engineering of the United States Navy Department has recently issued a code of rules covering the requirement for material used in the construction of boilers and machinery for use in naval vessels from which the following in regard to boiler tubes is taken :

Lap-welded mild steel and lap-welded charcoal iron.

The naval inspector will select three tubes from each lot of 100, and these will be subject to the following tests :

1. A piece 3 inches long, cut from one tube, must stand being flattened by hammering until the sides are brought parallel with the curve on the inside at the ends not greater than three times the thickness of the metal, without showing cracks or flaws, the bend at one side being in the weld.

2. A piece 1¼ inches long, cut from one tube, must stand crushing in the direction of its axis, under a hammer, until shortened to ¾ inch for stay tubes and to ½ inch for ordinary tubes, without showing cracks or flaws.

3. The end of one tube, cold, must stand having a taper pin, taper 1½ inch to the foot, driven into it until the the end of the piece stretches to 1⅛ times the original diameter, without showing cracks or flaws.

COMMANDER FRANKLIN HANFORD, U. S. N.

Inspector Tenth Light-House District, stationed at Buffalo, N. Y.

The failure to pass any one of these tests will reject the lot of 100.

Seamless and lap-welded mild steel tubes 3 inches in diameter and larger, for steam and water pipes. They must pass requirement No. 1, but requirement No. 2 is altered to the following, and No. 3 is omitted:

2. Two pieces which have been cut from the ends of two test tubes, shall, after annealing, stand flanging cold to a 1 inch flange, when the diameter of the tube is from 3 inches to 6 inches, or to a 1½ inch flange when the diameter of the tube is greater than 6 inches.

The failure to pass these tests in a satisfactory manner will reject the lot.

MARINE ENGINEERS BENEFICIAL ASSOCIATION

The Marine Engineers' Beneficial Association branch a Sault Ste. Marie has elected the following new officers : President, Peter Kelly; vice-president, J. R. Cook; financial secretary, Norman Rains; corresponding secretary, F. Sterling; treasurer, Moses Beauchamp: trustees, John Jordan, J. R. Cook and M. Lewis.

LAUNCHES OF THE WEEK.

(TWO PENNSYLVANIAS.)

The large steel cargo steamer Pennsylvania was successfully launched at the Lorain yards of the Cleveland Ship Building Co. on Saturday afternoon.

The Pennsylvania was built to the order of A. B. Wolvin, of Duluth, and others. Her general dimensions are, 450 feet over all; 430 feet keel; 50 feet beam, and 28 feet deep. She will be equipped with quadruple-expansion engines with cylinders 17, 25½, 38 and 60 inches, with 49-inch stroke. The water-tube boilers are to be allowed 250 pounds of steam. The new steamer is to be completed, ready for delivery by April 15.

Miss Lydia Wallace, daughter of Mr. James C. Wallace, vice president and manager of the Cleveland Ship Building Co., christened the large steamer. A large number of people from Cleveland attended the launch, and Lorain was also well represented.

One of the neatest passenger steamers ever built on the lakes was launched at the Wyandotte yards of the Detroit Dry Dock Co. on Saturday afternoon. Shortly after 3 o'clock Miss Edith Streuber, of Erie, Pa., broke a bottle of champagne over the bow and christened the new boat the Pennsylvania. A few seconds later Miss Bessie McFall, of Detroit, hoisted the colors of the new craft. Over 1,000 persons witnessed the launch.

The Pennsylvania is 225 feet long, 32 feet hull beam, 55 feet beam over the guards, and 12 feet deep. She is owned by the Erie & Buffalo Steamboat Co., and will make daylight trips between the two ports. The officers of the company are: Louis Streuber, Erie, president; Eugene McFall, Detroit, vice president; Ed. Heuer, Erie, secretary, and William McFall, Detroit, treasurer and purser.

The Pennsylvania has been built for speed. She will be the first boat for many years to make day trips between Erie and Buffalo.

After the launch the hull was towed to the docks of the Detroit Dry Dock Co. The work of fitting her up with machinery and putting on her upper works will begin. The boat will be in shape for service late in May, and, it is expected, will commence her runs about June 1. She will cost, when completed, $150,000.

MICHIGAN AND OHIO CAR FERRIES.

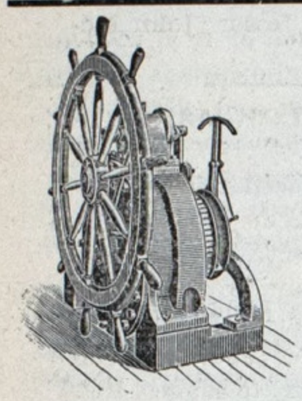
The Michigan and Ohio Car Ferry Company was organized late in the season of 1897 by E. H. Morton of Detroit. The company operated the two barges Mikado and Tycoon, and the venture never seemed to be a profitable one. The company was put to considerable expense in towing the ferries, and while business was good on the up trips the boats seldom, if ever, brought down enough freight to Sandusky to pay for the coal cousumed by the tug used to tow the barges. Switching charges at Detroit was also another big item of expense, and suit after suit was filed in the courts against the two boats for the collection of claims, several cases being still pending.

The Baltimore & Ohio railway was back of the company only to the extent of turning over freight consigned to Michigan points, and had the business been as good as at Sandusky the ferries might have made some money. Thousands of dollars, it is claimed, were lost last season and no attempt will be made this year to place the ferries on the line.

The Wisconsin & Michigan Railway, which operated a line of ferries between South Chicago and Peshtigo, is negotiating with the Baltimore and Ohio officials for the placing of one of its boats on the line from Sandusky to Detroit. The Wisconsin & Michigan Co. has two large barges, capable of holding 28 cars each, and if arrangements are completed one of these barges will be sent to Sandusky at the opening of navigation.

The British and Foreign Marine Insurance Co. are after the stolen cargo from the stranded steamer Arthur Orr, and before they stop proceedings it is likely that a number of people on the north shore of Lake Superior will find out that a vessel's cargo may not be stolen with impunity or even a ten foot pole when the Britishers get after them, a small item of about 120 tons of flour is still missing.

Queen City Patent Hydraulic Steerer.



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Generates no heat in pilot house.

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A favorite with pilots.

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Queen City Engineering Co.

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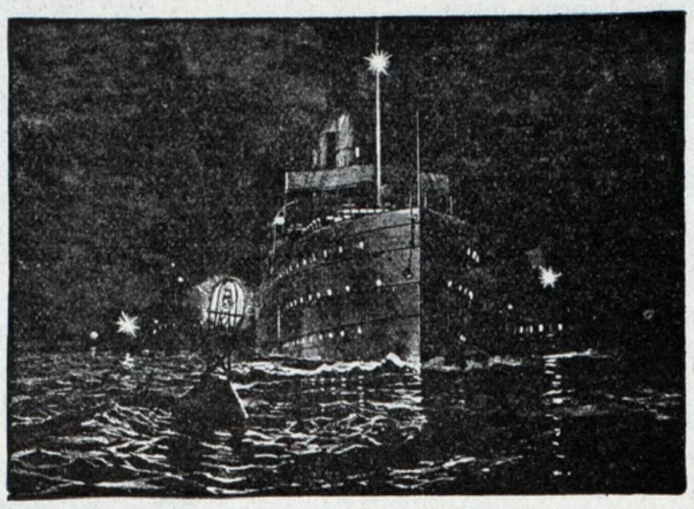

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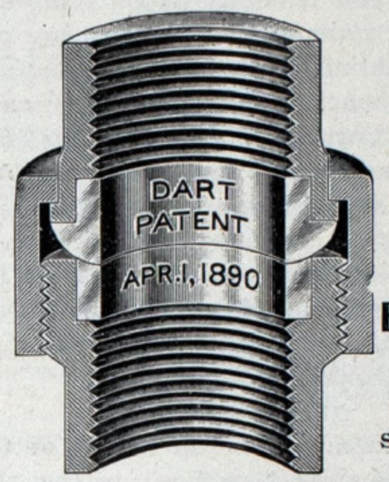

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61 Steam Yachts from 50 to 180 ft. long.

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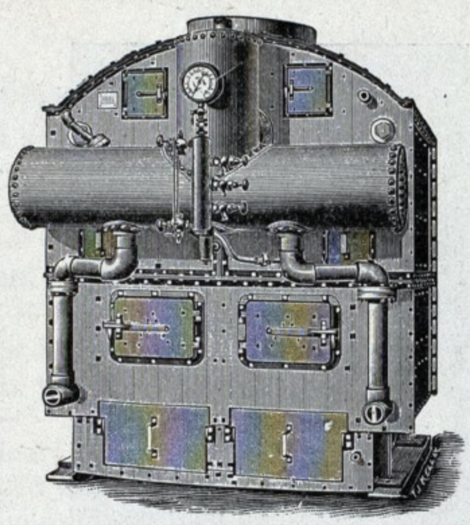

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DREDGING.

57 WADE BUILDING. CLEVELAND, OHIO.

SHIPPING AND MARINE JUDICIAL DECISIONS.

Effectiveness of Blockade.—The fact of a capture by a blockade vessel does not determine the effectiveness of the blockade. The Olinde Rodrigues, 91 Fed. Rep. 274.

Power of Master.—The acts of the master of a vessel in relation to an attempt to enter a blockaded port are binding on the owner, any abuse of trust on the part of the master being a matter to be settled between them. The Olinde Rodrigues, 91 Fed. Rep. 274.

Effectiveness of Blockade—Requirements.—To constitute an effective blockade of an enemy's port, it must be maintained by a sufficient number of vessels, and by vessels of such a character as to render the danger to a vessel attempting to enter evident and manifest. The Olinde Rodrigues, 91 Fed. Rep, 274.

Motive for Attempting to enter Blockade.—Where the intention of the master of a captured vessel to enter a blockaded port is clearly proved, a motive therefor need not be shown, nor is affirmative evidence of want of motive material. The Olinde Rodrigues, 91 Fed. Rep. 274.

Admiralty Jurisdiction—Action for Breach of Provision of Charter Party.—Where a provision of a charter party for a foreign vessel, though not in itself maritime in character, is so connected with the other stipulations therein as to render it an essential part on the contract, and it appears probable that without it the contract would not have been entered into by the owners, a court of admiralty has jurisdiction of an action for an alleged breach of such provision. Keyser vs. Blue Star S. S. Co., 91 Fed. Rep. 267.

Admiralty—Pleading and Evidence.—On a libel to recover a balance due for repairs made to a tug under a written contract, a cross claim for damages founded upon the claimed breach of extrinsic oral understandings or agreements cannot be considered, when neither the answer nor the cross libel sets up that the writing did not embody the entire contract. Any evidence which may have crept into the case in respect to such supposed oral agreements is irrelevant and inadmissible. The Bertha, 91 Fed. Rep. 272.

Levee Districts—Boundaries.—Grande Isle and Grande Terre Island, lying in the waters of the Gulf of Mexico. Held, not included within the limits of the Lafourche levee district. Had the legislature so intended, it would have evinced its purpose clearly and unmistakably. Not the intention of this decision to establish a precedent under which exemption of all islands from levee taxes may be claimed. Cases arising involving the question of exemption as affecting other islands will be dealt with upon the situation and on the facts and circumstances as then presented. Wilkinson et al vs. Landridge, Sheriff, et al, Herwig vs. Same, 24 So. Rep. (La.) 790.

Prize Proceedings — Transfer of Condemned Vessel to Another District for Sale.—A vessel which, after condemnation as prize, is taken by the marshal into another district for sale, under Revised Statute Sec. 4229, remains under the actual jurisdiction of the court wherein condemnation was had, and that court will not grant leave to a third person, who claims to have rendered salvage services to her in such other district, to libel her there to recover compensation. The remedy of the alleged salvors is either by intervention in the prize proceedings, or by direct application to the government for an allowance. In re White Star Towing Co. et al., 91 Fed. Rep. 285.

Action on Charter Party.—In an action by the owners of a foreign vessel against a charterer to recover for an alleged overcharge in a draft for expense money advanced the master in the port of loading, under a clause of the charter party requiring such advances "at a current rate of exchange," an answer alleging that the charge made was in accordance with an established custom of the port, in regard to such drafts and the rate of exchange thereon, states a defense, and is not subject to exception for insufficiency; the current rate of exchange, as expressed, being always a matter of proof. Keyser vs. Blue Star S. S. Co., 91 Fed. Rep. 267.

Authority of Master Under Charter Party—Settlement of Accounts.—Where, by a provision of a charter party for a foreign vessel to be loaded at a port in this country, the charterer was required to advance expense money to the master at the port of loading, for which the master should give drafts on the owners, and the contract further provided that any dispute thereunder should be settled at the port where it arose, the master was thereby authorized to make settlement with the charterer for advances; and such settlement, in the absence of fraud or mistake, was binding on the owners. Keyser vs. Blue Star S. S. Co., 91 Fed. Rep. 267.

Prize—Facts Considered. — The Olinde Rodrigues, a French steamship, having a regular route and carrying the French mails, one of the points on such route being the port of San Juan, Puerto Rico, was warned on leaving that port on the outward voyage of its blockade by the United States. In passing it in the usual course of the return voyage, but without any intention of entering, the Rodigues saw but a single blockading vessel, which was 15 miles from the port, and was the only one on the station, and attempted the port, but was captured. Held, that there was not an effective blockade of the port, within the spirit and intent of the law of nations, and that the captured vessel was not lawful prize. The Olinde Rodrigues, 91 Fed. Rep. 274.

Collision—Failure to Provide Lookout.—The Keller, a steam canal boat, was passing eastward through the Erie canal, pushing her consort, and having no lookout. She was preceded at a short distance by a horse boat. At a sharp bend in the canal, and while on the south or berme side, the consort collided with and injured the Clytie, which was going westward, also pushing a consort, and with a tow. The tow had not yet passed the horse boat, which compelled the Clytie to keep the berme side of the canal, which was there about 65 feet wide. Held, that the Clytie was not in fault for the collision, but that the Keller was negligent in failing to provide a lookout at such a place, which would have prevented the collision, and in not keeping to the left side of the caual, in the wake of the horse boat. The Hugo Keller, 91 Fed. Rep. 287.

FORCED DRAFT FOR MARINE BOILERS.

Although forced draft for increasing the rate of combustion was used in the United States Navy during the Civil War, it did not come into general use for naval vessels until about 1882, and in the merchant service still later, but since that time its use has become universal. Indeed, were it not for forced draught, boiler weights would be so great as to have long ago set a limit to speeds of the faster classes of vessels. When natural draught alone was used, the maximum rate of combustion with the best free-burning coal and good chimney draught did not reach 20 pounds per square foot of grate. With forced draught in large cylindrical boilers there are now numerous reliable records of 40 pounds per square foot, while in locomotive and water-tube boilers 80 pounds is now a common rate, and data have been published of over 100 pounds.

While the economy of evaporation at these high rates of combustion is not so great as under natural draught, the enormous reduction in boiler rates is very marked. Trials of the boiler of the United States torpedo boat Cushing, for example, show an increase in I. H. P. per ton of boiler of over 50 per cent. when the rate of combustion is increased from 24 to 40 pounds per square foot of grate, which means a decrease in weight per I. H. P. of over 33 per cent.

Except on Mr. Howden's part, the question of economy under forcing was for a long time ignored, designers being content with the great gain in power. At the present time, however, the question of economy under forcing is receiving great attention, and we may confidently anticipate this as one of the features of progress in marine engineering.—Commodore George W. Melville, U. S. N., in Cassier's Magazine for March.

THE 14-foot navigation through the St. Lawrence system of canals for 1899 is now regarded as an impossibility. The contractors who are unable to push the Galop rapids canal have laid the cause of delay before the Canadian government and are now granted an extension of time until the spring of 1900 to complete the work. The deep water steamboat line between upper lake and seaboard must transfer to barges at Ogdensburg, Kingston and Prescott as formerly.

RHYME OF THE SEAFARING MAN.

I purchased a glass of stiff Maine grog for a salty son of the sea,
And he confidentially leaned on the bar and spun this yarn to me.

"'Twas down on the aidge of the Saragos' in the nineteenth latitood
That I think I see the dumdest sight that ever a sailor viewed.

We was dobbin' along dumpy sail in a nigh about dead calm,
When the forward watch giv' a good long squint and he yapped a loud alarm.

And there afloat, two points to port, was a shark—a reg'lar he 'un,
The biggest shark I've ever seen outside the Caribbeun.

The old man fired a mighty cuss and he yelled to the second mate,
'Sling over the biggest hook ye've got with a good big plug o' bait!'

We dragged 'er astern and his nobs come on and then with a mighty splosh,
He gulped the pork, he bit the rope, and away he went by gosh.

But when he skipped two miles to lee and begun to wopse wheel,
We figgered he found the lunch he had a raythor too hearty meal.

Yet, right behind in the quarter wash the critter swum next day
And though he gobbed the bait we threw, he allus got away.

And at last, do ye know, we liked the cuss for the way he showed his spunk;
So we named him Pete and we shared salt hoss and tossed him a daily junk.

He got the orts of the fish we caught and, all in all, I'll bet
A two-hoss wagon wouldn't haul the grub that critter et.

Then one day Jones, the likeliest man we had in all the crew,
Went off the rail with a swinging sail and Pete he et him, too.

From that time on we tipped our caps to the razor-backed old brute,
We tipped our caps and pulled a bow in a most profound salute.

—Helman F. Day, in Lewiston (Me.) Journal.

A DREDGING COMBINE.

A combination of Lake Michigan dredge and dock companies from Racine to Green Bay has been formed. The company will be known as the Stark Dredge & Dock Company, with headquarters at Milwaukee. The combine is formed as follows:

C. H. Stark Dredge & Dock Company; Lake Michigan Dredge & Dock Company, of Green Bay; Sheboygan Dredge & Dock Company, of Sheboygan; Dixon Dredge Company, of Racine, and J. E. Hathaway & Co., of Milwaukee.

C. O. Dixon, of Milwaukee, will be general manager of the dredges. The consolidation is in towage of vessels and the dredging of rivers and harbors on the west shore.

LATER.—Mr. Starke denies that the combination has been formed.

THE LATE CAPT. McKENZIE.

The funeral services over the remains of the late Capt. James McKenzie, who died in Buffalo last Tuesday, were held in the scarlet room in the Masonic Temple. The funeral was attended by a large number of old personal friends, lake and transportation men, members of the Ismailia Temple, Nobles of the Mystic Shrine; of Hiram Lodge, F. & A. M.; of Lake Erie Commandery; of Buffalo Council; the Buffalo Chapter; Acacia Club; and other organizations of which Capt McKenzie was an honored member. The body reposed in a black broadcloth-covered casket, which stood in the center of the room. Beautiful floral pieces were in abundance. The Mystic Shrine sent a star and crescent, the Blue Lodge contributed a square and compass, Hiram Lodge sent a cross and crown, and the Buffalo chapter a floral piece made in the shape of its emblem.

The Knight Templar services, under the auspices of Lake Erie Commandery, were beautiful and impressive. The commandery escorted the body to Forest Lawn, where the usual Masonic services were held.

The pall-bearers were Capt. George McLeod, Capt. Parland McFarland, George L. Kingston, Oliver A. Jenkins, Henry G. Falke and Capt. Alex. Clark.

MARINE ENGINEERS ENTERTAINED.

The members of Toledo Marine Engineers' Beneficial Association, No. 37, were entertained Wednesday evening last by the sister lodge, M. E. B. A., No. 48, of Sandusky. The visiting party consisted of the following thirteen engineers: J. A. Page, J. A. Popp, I. Hone, E. D. Lock, Eugene Passano, Louis Sebastine, E. L. Rowe, Frank M. Weis, A. Patchen, F. Haviland, Wm. N. Decker, Levi Skeldon and George McNely.

At the hall of the Sandusky lodge a short meeting was held, and there were addresses by Past Representatives Wm. Decker, Frank N. Weis, E. D. Lock and others. The meeting was an enjoyable one, and established a precedent for such meetings, this being the first one. It was 14 years ago on April 14, that the Sandusky association was instituted by E. D Lock and other Toledo engineers, and until last night they had never since visited the Sandusky engineers.

After the meeting at the hall, the Sanduskians and their guests sat down to a fine banquet, and the occasion was enlivened with music. Most of the visitors returned to Toledo at midnight. The visit will be returned by the Sandusky marine engineers, who are arranging to go to Toledo.

The committee in charge of the entertainment consisted of John Hegerman, Philip Mayer, Henry Jesson, John McNerson and Boi Hansen.

SOME ASTRONOMICAL NOTES FOR MARCH.

(Communicated.)

The extremes of temperature experienced during February, cannot well be attributed to the influence of sun spots, as not a single spot was seen during the month, after the first day, when two small spots were just passing from view by rotation. When the mercury was away down below zero, as well as when it was fifty or sixty degree above, the sun presented the same placid face with nothing to suggest that anything unusual was taking place upon his surface, or that there was any diminution or increase in the emission of solar energy.

The principal winter constellations, Orion, Canis Major, Canis Minor, Taurus, the Gemini and Auriga now pass the meridian in the early evening, and during March may be found toward the west, nightly drifting toward the horizon and hence slowly losing their meridian brilliancy. Leo, with his well-known sickle whose brighest gem is Regulus, is now well up in the east, and Arcturus of Bootes toward the north east, can easily be recognized by following the line of direction determined by the last two stars in the handle of the Great Dipper.

Mars, the only evening planet, is still in the constellation of the Gemini and now forms a triangle with Castor and Polux. At present he is apparently stationary, but will move slowly toward the east during the month. He is too nearly overhead to be easily accessible with the telescope. The earth is rapidly leaving him behind and will add more than two millions of miles, during the month, to the distance that separates the two planets. Mars will also lose nearly one-third of his brightness during the same interval.

Jupiter, nominally an evening planet, rises too late to be of interest to evening observers.

Mercury reaches his greatest eastern elongation from the sun, March 24, and may be visible for a few evenings before or after that date.

Satern and Venus are only to be seen in the early morning.

March 20, at 2 o'clock in the afternoon, the sun will cross the celestial equator and mark the beginning of spring.

At that date also the day and night will be nearly equal, tho there is no date when the equality is exact. From that time on, we shall have more daylight than darkness, so the sun will be above our horizon more hours than he is below it.

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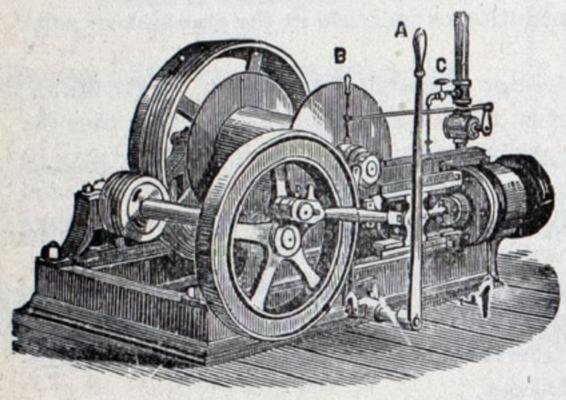

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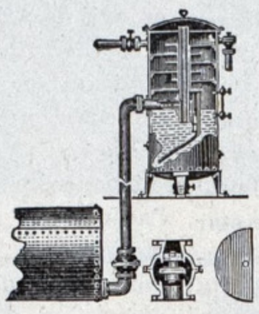

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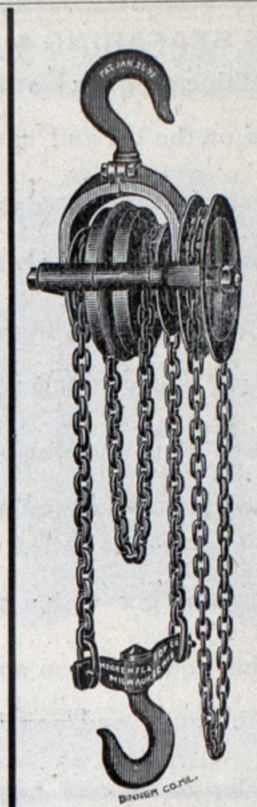

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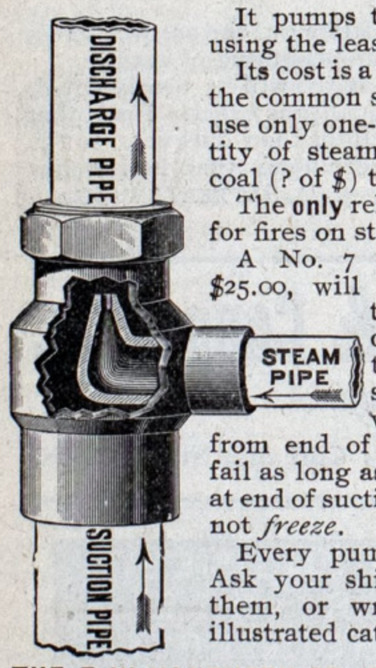

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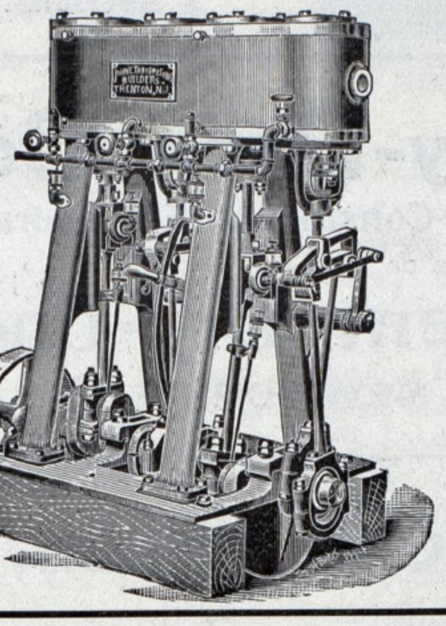

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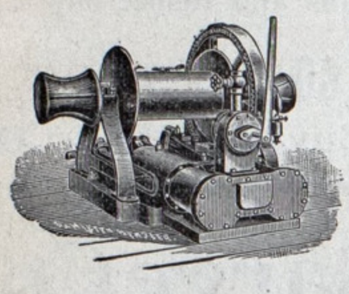

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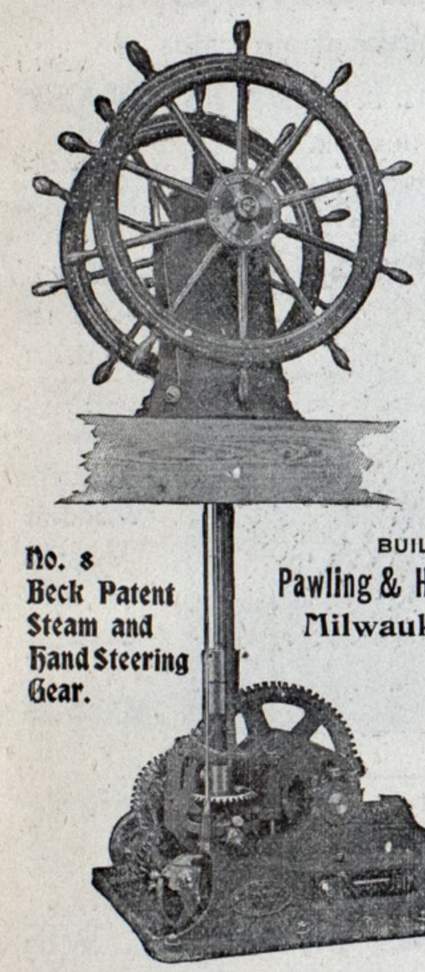

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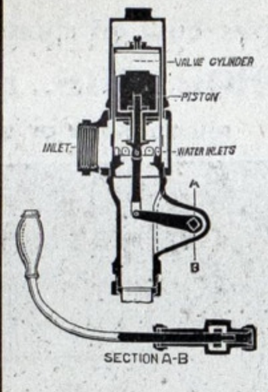

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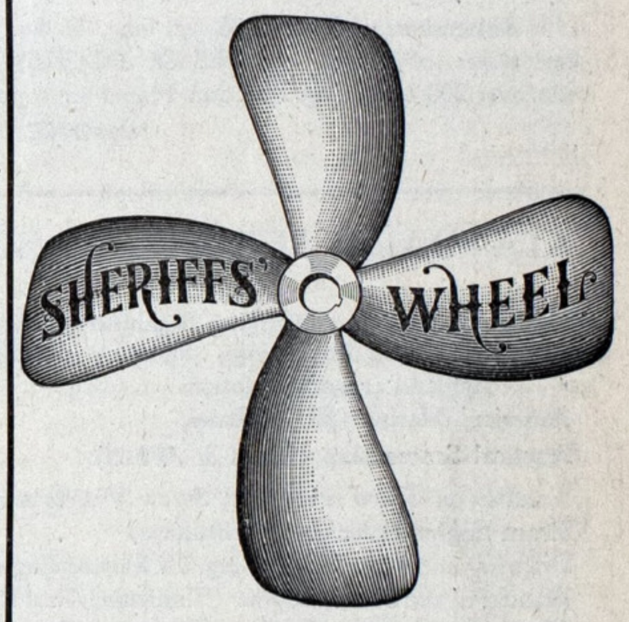

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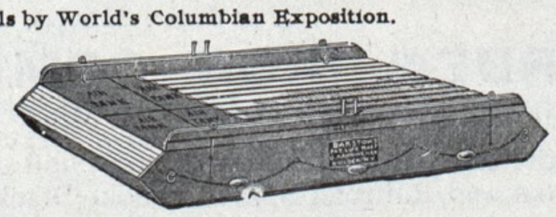

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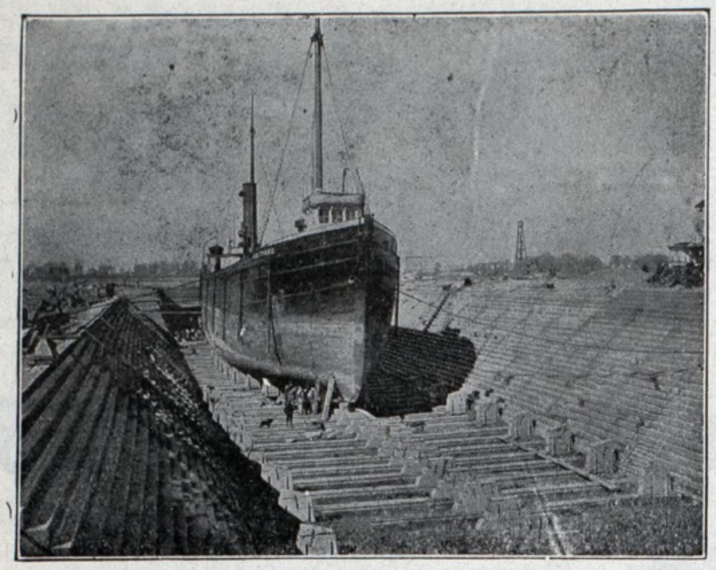

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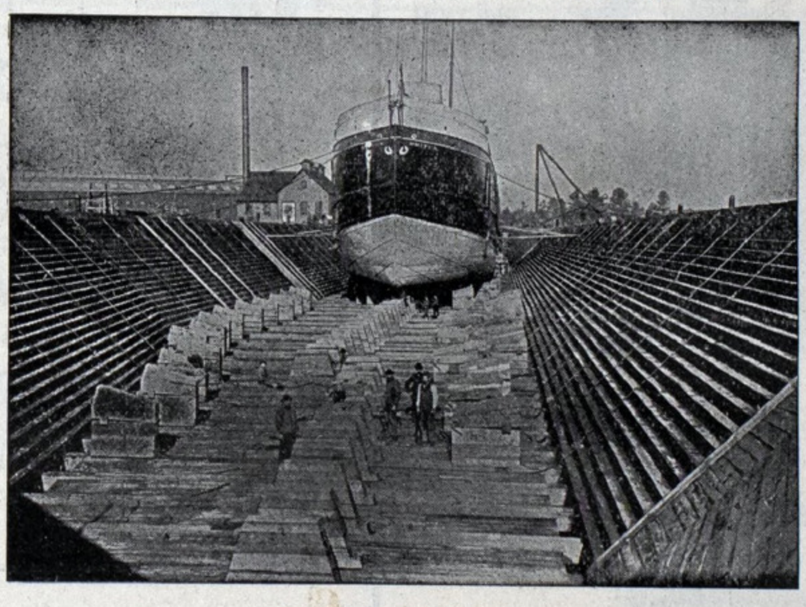

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